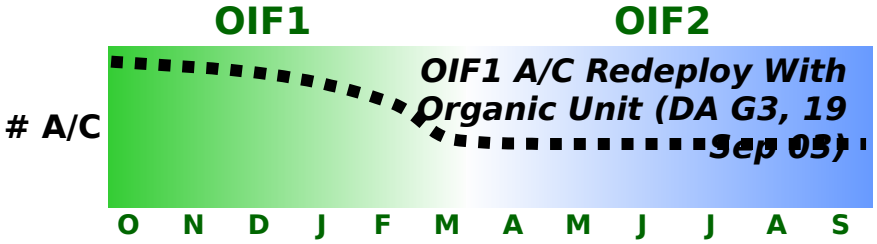
In-theater Aviation Reset

"Enhanced Desert Maintenance"

Enable Sustained OIF Aviation Operations

Overview

Situation



- Operation in Desert Environment Inducing Accelerated Deterioration of Aircraft
- Support of Extended Desert Operations Mandates Action Over and Above Normal Maintenance

OIF Aviation Alternatives

- **Continue Rotation of Aircraft**
  - Reset Aircraft Upon Return to CONUS/Europe
  - ***Structured to Prepare Aircraft for World-wide Deployment***
- **Establish Stable "Desert Fleet"**
  - Conduct Enhanced Desert Maintenance (EDM) on Aircraft Remaining in Theater
  - ***Tailored for Sustained Desert Operations***

Implications of Desert Fleet

- **Operational**
  - Deployment Transit Time, Cost & Damage Eliminated
    - ***Army-wide Increase In Fleet Readiness***
  - Misalignment of Aircraft and Operators / Maintainers (CONUS/Europe/In Theater)
  - Increased Time Associated With EDM (30-50% Increase to Current Phase Time)
- **Cost Delta Above Currently Projected Wartime Requirements**
  - FY04 – Desert Kits $62M ✓ ***Funded***
    - EDM on 81 Aircraft $26M ✓ ***Funded***
  - FY05 and Beyond
    - EDM on ~325 Aircraft $104M Annually

EDM Approach

- **Objective: Support Sustained Desert Operations**
- **Scope:**
  - Essential Inspection, Cleaning and Repair
    - Ensure Safety
    - Maximize Fleet Readiness
    - Minimize EDM "Down Time"

    } ***Balance Required***
  - Application of "Desert Kit"
- **Timing: Synchronized With Phase Inductions**

Bottom Line

Implement EDM & Set Conditions for OIF2/3 Rotation Decision

Approved by CG AMC, Army G3/4 & FY 04 Funded by ABO

Desert Fleet
Pros and Cons

PRO:

- **Eliminates Transportation Time, Cost and Induced Damage**
- **Results in Reduction in Transition Time**
- **Reduces Total Number of Aircraft Requiring Full Reset for FY05 and Beyond**

CON:

- **Requires Redistribution of Aircraft in CONUS/USAREUR and Re-examination of Deployment Requirements**
- **Increases Requirement in Theater for Tools / Test Equipment / Facilities**
- **Induces Potential Long Term Damage to Aircraft**
  - **Rotation Will Be Required at Some Point**
  - **Prime Candidates for Induction Into Recap/Reman**

Maintenance Spectrum

	Normal/Routine	*Enhanced Desert Maintenance*	Full Reset
	Structure to Maximize Near Term Aircraft Availability	Tailored for Sustained Desert Operations	Structured to Prepare Aircraft for World-wide Deployment
Phase	Scheduled Segment	Scheduled Segment	All Segments
Black Boxes	IROAN*	Detailed Inspection/Test	Open & Clean/Repair
Engines		• Open All But OH-58D • Increased Cleaning Frequency	Open All
Wiring Harnesses		Detailed Inspection	Remove & Clean/Replace
Fuel Cells		Inspect	Remove & Repair/Replace
MWOs	Critical	Critical & Desert Kit	All
		In Theater	Upon Rotation

* *Inspect Repair Only As Necessary*

- Ongoing -

EDM Approach

Sized Based on OIF2 Force Structure

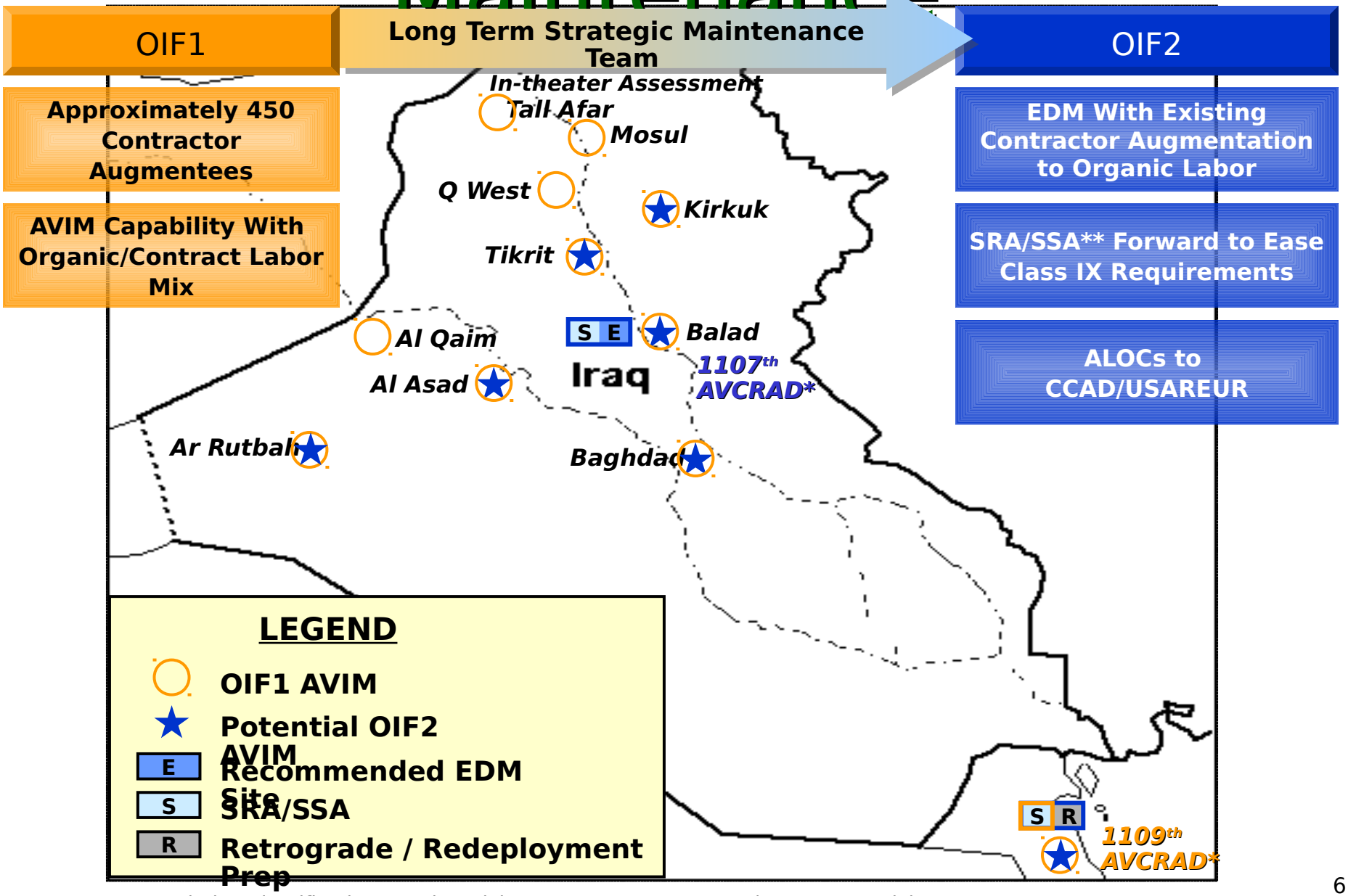
- **Structured to Support In-theater Sustainment of ~325 OIF Aircraft**
- **Contractor Augmentation to and Integration With Organic Maintenance**

Leverage Existing In-theater Personnel, Facilities & Equipment

- **Establish/Mature Special Repair Activities (SRAs) at EDM Sites to Reduce Turn Around Times and Stress on Class IX System**
- **Aircraft Inducted Based on Phase Requirements and Unit Priority**
  - **Cycle Complete in One Year With Recurring Annual Requirement**
  - **Consider 5% ORF to Offset Initial In-theater Unit Readiness Impact**
- **"Desert Kit" to Mitigate Long Term Effects of Sustained Desert Operation and Reduce Future Maintenance Requirements**
  - **Engine Inlet Barrier Filter (IBF)**
  - **Auxiliary Power Unit (APU) IBF**
  - **Hydraulic Filters**
  - **Blade Protection**
  - **Aircraft Covers**

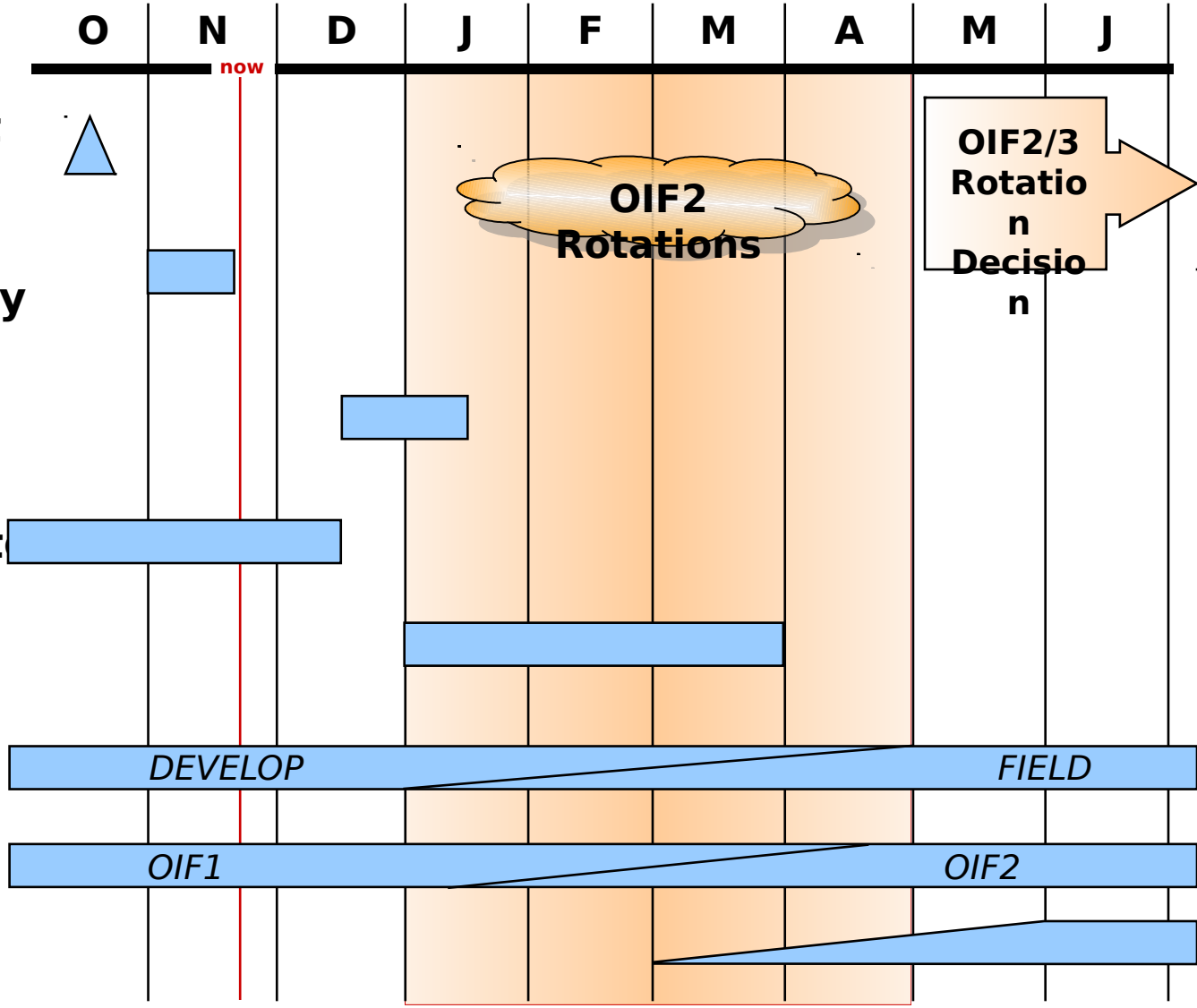
Focused on High Readiness & Cost Drivers

In-theater Aviation Maintenance



* AVCRAD: Aviation Classification Repair Activity Depot ** SSA: Supply Support Activity

Actions to Implement EDM



Desert Kit Core Elements

Approved & Funded

Driven By High Readiness & Cost Impacts Associated With Desert Induced Damage				
Desert Kit Element	**FY04 OIF2 Reqt**	**Total FY04 Cost ($M)**	**Initial Delivery / Rate Per Mo ***	**Fielding Strategy**
UH-60 Engine IBF	**134**	**$39.3**	**Mar 04 / 40**	**In-theater Retrofit**
UH-60 APU IBF	**134**	**$12.3**	**Dec 03 / 20**	**Pre-OIF2**
CH-47D Engine IPS	**31**	**$2.2 Install**	**Dec 03 / 14**	**Pre-OIF2**
AH-64A APU IBF	**40**	**$2.8**	**Jun 04 / 20**	**In-theater Retrofit**
AH-64 APU Bearings	**93**	**$0.1**	**Jan 04 / TBD**	**Pre-OIF2**
OH-58D Hydraulic Filter	**212**	**$0.2**	**Jan 04 / 53**	**Pre-OIF2**
Rotor Blade Protection	**324**	***Funded Per ASPB (Jul 03)***	**26 Dec 03 / 100**	**Pre-OIF2**
Aircraft Covers	**324**	**$4.9**	**Dec 03 / 100**	**Pre-OIF2**
ALQ-144 Filter	**100**	**$0.5**	**Jan 04 / 45**	**Pre-OIF2**
TOTAL		**$62.3M**		

* *Ship Sets*

ASE Installation Is Priority

Desert Kit Impacts

Example: Apache/Black Hawk T700 Series Engines

As of 18 Nov 03

	Number Removed/Replaced	OIF Costs	Potential Savings With Barrier Filters
T700	**124**	**$66M**	**$37-47M**
T701	**51**	**$29M**	**$17-20M**
T701C	**305**	**$212M**	**$119-151M**

75 - 95% of Engines Failing Prematurely Due to Exposure to Desert Environment

Failure on Average Occurring at ¼ of Life Expectancy

Total Potential Savings With IBF to Date: $173 to

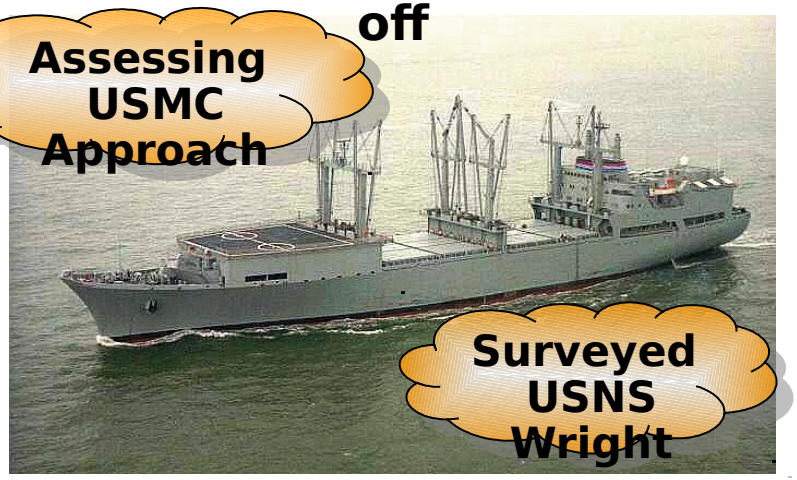
And Corresponding Readiness Benefit

Potential Shipboard Capability For Long-Term Aviation Maintenance

- **Purpose: Enhance Army Aviation Strategic Mobility**
- **Scope**
  - **Prepo**
    - **Parts**
    - **Maintenance Equipment / Facilities**
  - **Maintenance Operations**
    - **Component Level**
    - **Intermediate to Depot Level**
- **Potential Users**
  - **Joint Aviation**
  - **Multiple Army Mission Areas**

Ensure Synchronization of Concept
With Results of CSA Review of

LPH/LHA – Fly-on/Fly-off



T-AVB 3 – Roll-on/Roll-off

CG AMC Meeting
14 Oct 03

- **Fund Desert Kit and FY04 EDM** ✓
  - **Field Desert Kits to Support OIF2**
- **Set Conditions for Future "Desert Fleet"**
  - **Conduct In-theater Assessment** ✓
  - **Execute In-theater EDM as Briefed**
  - **Conduct Formal Assessment of Long Term Effects of Desert Environment / High OPTEMPO**
- **Continue Investigation of Ship-based Options for Long Term Aviation Maintenance**
  - **APS vs Aircraft vs Maintenance**
  - **Roll-on/Roll-off vs Fly-on/Fly-off**
  - **Joint Service**

Conduct Requirements Analysis

In-theater Maintenance Assessment Findings

- **Aircraft in Better Condition Than Anticipated**
- **Agreement on Need for Theater Aviation Support Manager under CFLCC for:**
  - **Aviation Maintenance**
  - **Supply Distribution**
  - **Component Retrograde**
  - **Aircraft Predeployment Assistance and Inspection to Initiate Reset**
- **Validated Need to Reshape Theater Aviation Maintenance Support**